

Tidal Reservoir

A body of water between the Potomac River and the Washington Channel, one-half mile south of the Washington Monument
Washington
District of Columbia

HAER No. DC-9

HAER
DC
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574-

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
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HISTORIC AMERICAN ENGINEERING RECORD

TIDAL RESERVOIR

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Location: A body of water between the Potomac River and the Washington Channel, south of the Washington Monument.

UTM: 18/323100/4305710

Quad: Washington West, D.C.

Dates of Construction: 1882-1909

Engineers: Army Corps of Engineers

Present Owner: National Capital Park Region
National Park Service

Significance: The Tidal Reservoir is a major element of Potomac Park. Besides providing the park with a picturesque focal point, it serves as a means of flushing waters into the Washington Channel, thereby preventing stagnation and other deterrents to the enjoyment of the park. Aside from its visual and functional importance, the Tidal Reservoir is utilized for recreational purposes such as fishing and paddle-boating. Its placement in a park setting links it to early twentieth-century park design and planning that relates to the landscape architecture ideals of Frederick Law Olmsted.

Present Use: Tidal reservoir and recreational basin

Historian: Mary Kendall Shipe, 1988

By the second half of the nineteenth century, a problem existed along the Potomac riverfront in Washington, D.C. The Potomac "flats"¹, a marshland along the river, had been formed from deposits of silt. They became a detraction from the plan for the Capital and Mall areas and, as one source noted, "the Potomac flats played a role in principal failings of the postwar [Civil War] Capital."² Aside from lacking in visual appeal, a significant problem was the use of this area for dumping sewage. The stagnant and foul-smelling area was also a breeding ground for malaria. As the navigation and commercial viability of this section of the riverfront was deteriorating the government recognized that the area needed revitalization.³

By the 1870s, two goals were identified: 1) improvement of navigation; and, 2) filling in the flats. The basic idea was to dredge⁴ the river channel for navigational purposes and to use the material dredged to fill in (or reclaim) the marshy area. This process took many years and a number of appropriations from Congress to complete. Even by 1902, it is noted that the task had not been fully accomplished.⁵ Over 600 acres would eventually be reclaimed in this manner.

A number of designs for the area were submitted before the actual reclamation began. In 1879, Major William Twining offered a proposal that created a park in the reclaimed area which would include flushing lakes. The lakes would serve as an ornamental feature and would also hold a reserve of water available to flush out the channel.

Congress finally took action in 1881 after a severe flood had "lapped the foot of Capitol Hill."⁶ The plan enacted in 1882 by Major Peter Hains was based on Twining's plan but substituted a tidal reservoir for Twining's flushing lakes. Hains, as Chief Engineer, became the mastermind behind the

Albert E. Cowdrey, A City for the Nation (Washington, D.C.: Office of Administrative Services, May 1979), p. 31.

² Kress-Cox Associates Inc., Historic Structure Report: Arlington Memorial Bridge (Washington, D.C., May 1986), p. 24.

³ Ibid.

⁴ For information on the dredging techniques (primarily hydraulic dredging) that were used in developing Potomac Park, see Gordon Chappell, Historic Resource Study: East and West Potomac Park (Denver Service Center, National Park Service, June 1973).

⁵ "Washington, The Development and Improvement of the Park System," American Architect, February 1902, p. 35.

⁶ Kress-Cox Associates, Inc., Historic Structure Report: Tidal Basin Inlet Bridge (Washington, D.C., May 1986), p. 6.

reclamation and improvement of the Potomac flats.

The design for filling in the flats made the Washington Channel an arm of the river which was closed at its north end. It was expected that some sewage would spill into this channel arm. The creation of the Tidal Reservoir would provide an outlet to clean the channel out. The channel would actually be "flushed" of impurities when it received 250,000,000 gallons of water daily from the reservoir during low tide. At high tide, the reservoir accumulated the water from the inlet passage at the Potomac River. Because of the large amount of water flowing out of the reservoir into the Washington Channel, a reservoir outlet was necessary, and it was later discovered that inlet gates were also essential to the proper functioning of the reservoir.

After the reclamation process was under control, Congress passed an act in 1897 "declaring the Potomac flats a public park under the name of Potomac Park."⁷ The Tidal Reservoir (which comprised one hundred and ten acres of the park) marked the division of Potomac Park into two tracts of land which eventually became named West Potomac Park and East Potomac Park. The Tidal Reservoir (later known as the Tidal Basin) was an integral element of Potomac Park. It was to provide a pleasing feature to the park but its primary function was to convey large amounts of water from the river to the channel through tidal action.

The McMillan Commission of 1901 planned land usage in the Mall area incorporating ideas of monumentality into the plan. In promoting landscape architecture and park design, the Commission had a direct effect on later elements of Potomac Park and the Reservoir such as the design for the Inlet Bridge.⁸ The Army Corps of Engineers and the McMillan Commission (among others) continued work on Potomac Park through the early 1900s. In the end, many were able to appreciate "...the transformation of Potomac Park from wilderness to beauty spot."⁹

⁷ Alexander E. Hagner, Some Remarks on History and Uses of Potomac Park (Washington, D.C.: Press of W.F. Roberts Co., 1914), p. 12.

⁸ For additional documentation for the Tidal Reservoir Inlet and Outlet see HAER Nos. DC-9-A and DC-9-B.

⁹ Cowdrey, p. 40.

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ADDENDUM TO:
TIDAL RESERVOIR
(Tidal Basin)
Between the Potomac River & the Washington Channel
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